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Company Performance Optimization Strategy and Competitive Advantage on Remanufacturing Products through Quality, Innovation, and Supply Chain Management

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Keywords

Company Performance; Competitive Advantage; Remanufacturing Products; Quality;

Abstract

The results show that product quality has a positive and significant effect on company performance on Reman products; product innovation does not affect company performance because companies do not make too many innovation efforts to improve performance. Supply chain management practices positively affect company performance for Reman products. Supply chain responsiveness does not have a positive and significant effect on company performance, Supply chain strategy does not have a significant positive impact on competitive advantage, Competitive advantage has a significant positive effect on company performance. Product innovation does not affect the company's performance because the company does not make too many innovation efforts to improve performance. Supply chain management practices positively affect the company performance of Reman's products. Supply chain responsiveness does not have a positive and significant impact on company performance, and Supply chain strategy does not have a significant positive effect on competitive advantage; competitive advantage has a significant positive effect on company performance. Supply chain responsiveness does not have a positive and significant effect on company performance, and Supply chain strategy does not have a significant positive effect on competitive advantage; competitive advantage has a significant positive effect on company performance.

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1. Introduction

Based on data MEMR (2022), Coal production in Indonesia reached 461 million tons in 2017, and there was a significant increase until 2021, which reached 607 million tons. From a press release Number: 246.Pers/04/SJI/2021 on July 26, 2021, the Director General of Mineral and Coal of the Ministry of Energy and Mineral Resources stated that coal reserves in Indonesia currently reach 38.84 billion tons. With an average coal production of 600 million tons per year, the age of coal reserves is still 65 years if it is assumed that no new reserves are found.

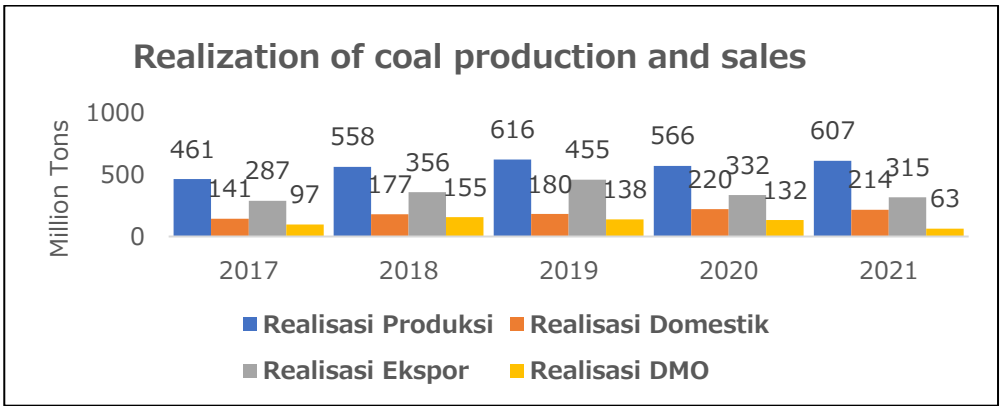


Figure1. Coal Production Data in Indonesia
Source: Processed by the author

The need for coal for domestic purposes or domestic market obligations is estimated to continue to increase in the next 5 (five) years, especially in the electricity sector. This makes the number of coal mining contractors in Indonesia continue to increase. Heavy equipment manufacturers entering Indonesia also increased, making the competition even tougher. PT. Komatsu Marketing and Support Indonesia, hereinafter abbreviated as PT. KMSI is one of Indonesia's Komatsu brand heavy equipment manufacturers, with several competitors such as Caterpillar, Hitachi, Kobelco, and other manufacturers.

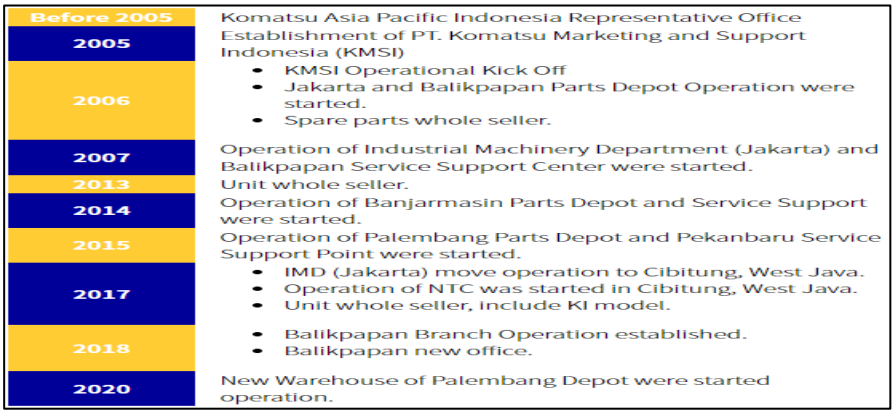


Figure 2. The journey of PT. KMSI
Source: Processed by the author

Based on data from. KMSI (2018), apart from selling heavy equipment, PT. KMSI also provides after-sales spare parts, service services, and remanufacturing (Reman) components. Reman product or Reman product is one of the products offered by PT. KMSI. Reman itself is a product produced by PT Komatsu Reman Asia, in the future abbreviated as PT. KRA. PT. KRA itself is a manufacturer of Reman products. Established in 1996, until now, Reman products are still one of the superior products of PT. KMSI. Ownership of PT. KRA itself consists of 2 major owners, namely, PT. KMSI (51%) and PT United Tractors, hereinafter abbreviated as PT. UT (49%), this data was obtained from PT.KRA (2022).

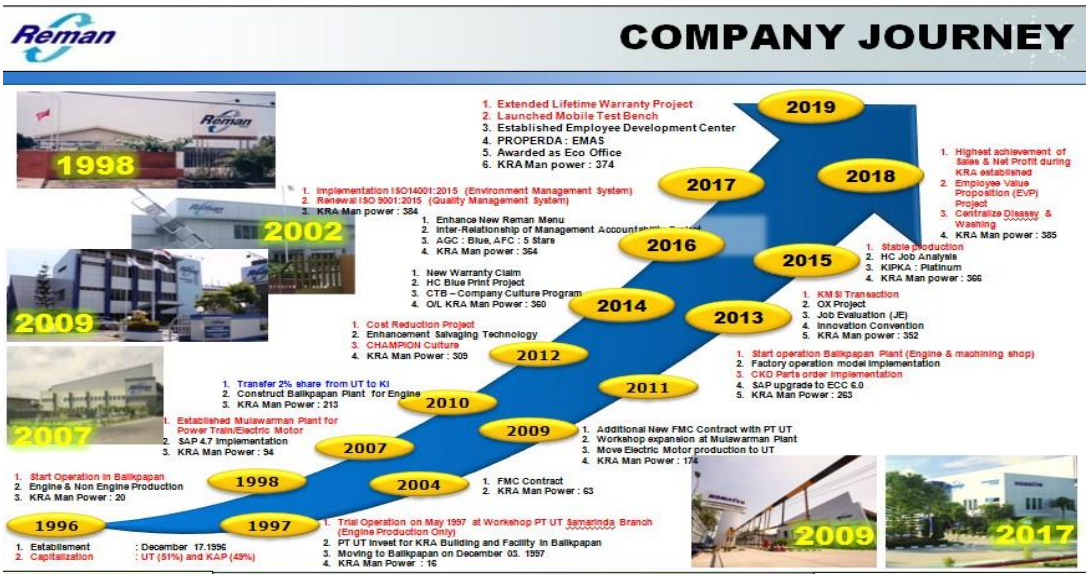
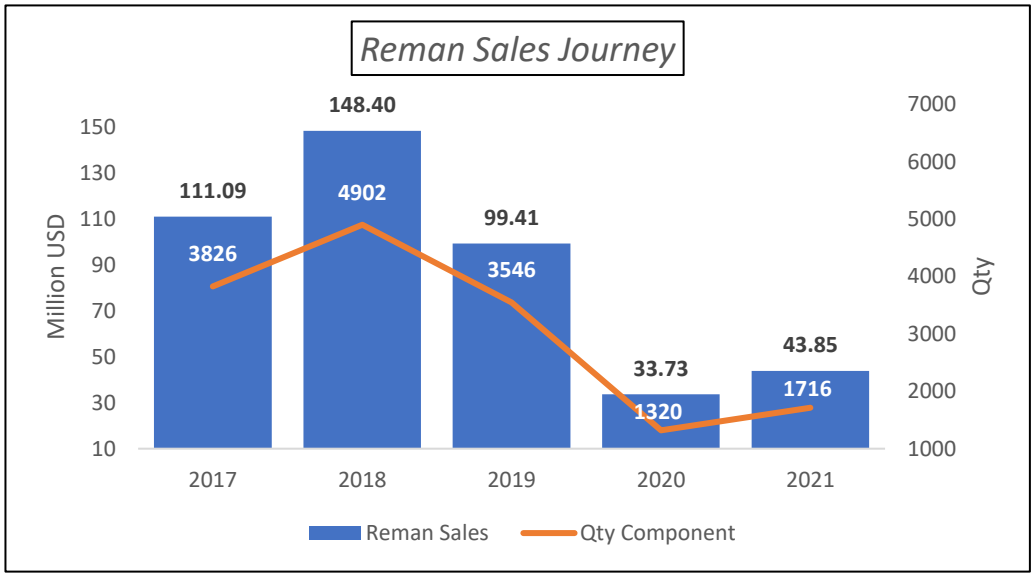


Figure 3. The journey of PT. KRA
Source: Processed by the author

Reman's product itself is superior because it supports LCC (life cycle cost) savings in heavy equipment units for mining. LCC is an approach that assesses total assets over the life cycle, including initial capital costs, unit maintenance costs, operating costs, and the salvage value of assets at the end of their useful lives. In addition, the percentage of sales value, when compared to other products, has an average value of almost 30% of the total sales of PT. KMSI. It is noted that in 2018 Reman products reached a sales percentage of 30% of the total sales of PT PT. KMSI, with a nominal value of US$ 148,404,000.

This is a significant figure for the company's revenue, so PT. KMSI. However, it can be seen in table 1.1 below that sale of Reman's products has decreased significantly starting from 2019 to 2021. This phenomenon is in stark contrast to the increase in coal production and prices, which are currently at the level of $185/ton and have even touched the highest level in Indonesia. $245/ton in November 2021. Where so far, the sales of Reman products are simultaneous with the production and price of coal reference in Indonesia.



Graph 1. Sales of Reman Products at PT PT. KMSI
Source: Processed by the author

The decrease in the number of sales requires a deeper analysis to find out the causes of problems in Reman PT. KMSI. PT. KMSI also requires the implementation of appropriate business strategies in the face of changing uncertain business environments, in order to increase sales and competitive advantage of Reman products in Indonesia.

In research conducted byStefanus (2015) there is an explicit definition of strategy, namely an action plan that explains the allocation of resources and various activities to deal with the environment, gain competitive advantage, and achieve company goals. In general, business strategy is applied to the company's long-term goals, and this explanation is explained byStefanus (2015), which is a description of the company's mission.

Meanwhile, in researchApriliani and Ferdinand (2015), The company achieves a competitive advantage if the company implements a value-creating strategy that is not carried out by other companies at the same time. Competitive advantage is the ability of a company to formulate a strategy that places it in a more advantageous position compared to its competitors. Sanches and Zilber (2018) Explain that competitive advantage arises when consumers perceive that they receive more value from their transactions compared to their competitors.

Basically, consumers will like products that have advantages. The company will try to achieve these advantages so that consumers do not switch to competing products. To achieve these advantages, companies generally implement strategies regarding what policies will be used to achieve these goals. Competitive advantage is the strategies that the company uses to create or provide more value to its customers compared to other competitors, which is explained in the research.Apriliani and Ferdinand (2015).

Things that companies can do to implement competitive strategies are to improve product quality and product innovation. According to Putri and Sulistyawati (2021), Quality is a combination of traits and characteristics that determine the extent to which the output can meet the requirements of customer needs or assess to what extent the properties and characteristics meet their needs. Meanwhile, product innovation is an idea, idea, practice, or object that is realized and accepted as

something new by individuals or groups to be adopted. By innovating the products offered (adding product features, improving product design, and updating the system), making these products look more different from competing products. These efforts will trigger consumers to prefer these products over competing products that are reinforced by Apriliani and Ferdinand (2015), thus creating a competitive advantage.

In addition, research conducted by Soemarni et al. (2020) show the results which state that supply chain management (SCM) has an effect on company performance which is explained in the study that the better SCM is applied in the company, the better the company performance will be. Research conducted by Henry et al. (2014)explained that there are two advantages of integrating SCM, namely, (1) companies can use supply chain partners to reduce internal resource shortages and allow companies to focus on key competencies and existing internal and external strengths to maximize productivity as well as profits, (2) integration SCM enables companies to add intangible value to all activities of the organization, suppliers and customers.

This research was conducted because of the presence of different research results from one study to another. Where are the results of research conducted bySoemarni et al., (2020) show the results that SCM can improve company performance temporarily. The results of research conducted by Lu et al. (2018) state that there is no linear relationship between SCM and company performance. Inconsistent results were also shown in the study Choon Tan et al. (2002) found that SCM and product quality are not related to company performance. So, based on the above review, this study will discuss the optimization strategy of company performance and competitive advantage in remanufacturing products through quality, innovation, and supply chain management. This research is based on the phenomenon of the decline in sales of Reman products experienced by PT. KMSI. Thus, this research was conducted at PT. KMSI.

2. Materials and Methods

In a study, researchers are required to have planned what stages will be carried out during the study, and what patterns and analytical tools are used must be explained in writing. The selection that will be chosen by the researcher depends on the type of data used in the study. This research was explained at the beginning of the chapter that it uses research that uses quantitative data collected from questionnaires in the form of numbers or numbers. Thus, this research will use the Structural Model Equation (SEM) analysis method using the SEM LISREL application and also SPSS to process the validity test and reliability (Pibriana and Ricoida, 2017).

SEM is a combined method of regression analysis, path analysis, and factor analysis that is often used in research in the social sciences. In this paper, an alternative approach to SEM will be discussed, namely, using the Bayesian approach. According to Lee (2007), modeling in SEM involves latent variables that have a linear relationship, and all observation values are normally multivariate distributions. SEM will produce valid equations if the required assumptions are met, namely multivariate normality and linearity (Sain, 2016).

3. Results and Discussions

Discussion of Hypothesis Test Results

Based on the results of the data analysis that has been done, it can be explained the results of the study of the relationship between research variables. The explanation of the results of this study is as follows:

Effect Test Product quality to Company Performance

The calculation results obtained t-count of 2.39 and the value of t-table = 1.96 (t-count <t table). This means that H01 is rejected and Ha1 is accepted, and then there is a significant effect between product quality to company performance. Thus the hypothesis states that there is a significant effect between product quality to company performance acceptable. These results are supported by research conducted by Sumardi and Fernandes (2020), who found that product quality had an effect on organizational performance.

From several indicators on product quality, Reman's product indicators have features that add value to products that need to be optimized by the company. This, of course, has been taken into consideration by the company because, in the development of Reman products, the company focuses more on increasing durability and good functional performance, which are included in the product quality element. Because Reman products are created from outdated machines, which are then rejuvenated, it is certain that the goal is to increase the useful life of using these machines. So, because this indicator is also one of the factors of product quality, companies need to maintain efforts in this regard. Efforts that the company can make to fulfill this are by forming a Research and Development team that is specifically engaged in developing Reman products so that the team can focus on Reman products. Parties who can form this team in PT. KMSI is, of course, the manager of the Reman division, which then the R and D team is directly under the Reman division and contains 2-3 people in one team.

With the formation of this team, Reman's products can be better. So, not only prioritizing durability and functional performance but Reman products can also be equipped with new features that will add value to the Reman product.

Effect Test Product Innovation to Company Performance

The calculation results obtained t-count of 0.97 and the value of t-table = 1.96 (t-count <t table). This means that if H01 is accepted and Ha1 is rejected, then there is no significant effect between product innovation to company performance. Thus the hypothesis which states that there is a significant effect between product innovation to company performance can be rejected.(Fitriani, 2015; Huda et al., 2020; Tay and Sundiman, 2021) Also found, similar findings were that there is no effect between product innovation and performance. This is because, in Reman's own product, the existence of product innovation in the products sold does not provide a change in preferences for customers who buy Reman products.

Product innovation does not affect the company's performance because there are not too many innovation efforts made by the company to improve performance. The most influential product innovation indicator for the company performance of PT. KMSI is the presence of new features and changes to the Reman product design. However, it is difficult to make changes to the design of Reman's products because Reman products are outdated products that are rejuvenated and have special specifications according to their standards.

So, to fulfill this, the efforts that can be made by the company are not from changing the design of the product but, PT. KMSI can make design innovations by, for example, providing an attractive appearance from the packaging side, or the company can create a product display design program by accepting orders from customers according to the packaging that the customer wants. This effort can be optimized and programmed by the Reman division manager to increase customer loyalty to PT. KMSI.

Effect Test Supply Chain Management Practices to Company Performance

The calculation results obtained t-count of 2.49 and the value of t-table = 1.96 (t-count> t-table). This means that H01 is rejected and Ha1 is accepted, and then there is a significant effect between supply chain management practices to company performance. Thus the hypothesis which states that there is a significant effect between supply chain management practices to company performance acceptable. Domenek et al., (2022) in their research, found the same result. Namely, supply chain management has an effect on performance.

These results also indicate that supply chain management practices indicators must be maintained to improve company performance. The most influencing indicator, in this case, is that the company always maintains close relationships with its customers and also with other external parties. Some of the things the company has done in this regard are one of them is the establishment of a PDC (Parts Distribution Center) division which is specifically aimed at handling everything related to Reman products that need to be carried out. Supply chain management practices are closely related to the discussion of the company's relationship with other parties outside the company, including customers, suppliers, and other external parties. So, activities such as the activity of conducting a unit location survey by visiting the customer's location directly together with the distributor in this case PT. United Tractors is something that needs to be maintained within the company.

Effect Test Supply Chain Responsiveness to Company Performance

The calculation results obtained t-count of 0.51 and the value of t-table = 1.96 (t-count <t table). This means that H01 is accepted and Ha1 is rejected, then there is no significant effect between supply chain responsiveness to company performance. Thus the hypothesis which states that there is a significant effect between supply chain responsiveness to company performance can be rejected.(Khaddam et al., 2020; Malik, 2019; Nakano and Matsuyama, 2022) Also found the same result, where company performance did not change despite changes in supply chain responsiveness.

The indicators contained in the supply chain responsiveness are the company has a qualified operating system, the company has a clear, appropriate and timely logistics process flow, the company maintains good relations with all external parties of the company, the company supports suppliers to improve the quality of supplier products and Finally, the company involves suppliers in the planning process and goal setting process.

From some of the indicators above that have not been carried out optimally by the company, the company supports suppliers to improve the quality of their products. The company has not been directly involved in developing the quality of the supplier company's product. This is because PT. KMSI in the early stages, already requires the selection of suppliers with the best quality.

If the company wants to be involved in improving the quality of the supplier company's products, the company can provide input to suppliers if there is indeed poor quality in the products they sell. Besides that. Companies can also commit to survival by using the same supplier to evaluate each other for several years.

Effect Test Supply Chain Strategy to Company Performance

The result of the calculation is that the t-count is -1.44 and the t-table value = 1.96 (t-count>t-table). This means that H01 is accepted and Ha1 is rejected, then there is no significant effect between supply chain strategy to company performance. Thus the hypothesis which states that

supply chain strategy does not affect company performance is supported by research conducted (Zimmermann et al., 2020). In addition, in research Qi et al., (2009)explained that the supply chain *strategy* must be in accordance with product characteristics so as to optimize company performance. The study explains that supply chain strategies encourage an increase in company performance. Thus, companies should need to improve supply chain strategies within the company. Here are things companies can do to improve SCS:

Table 1.
Supply Chain Activities within the Company

No	Agenda	Period	Executor (PIC)
1	*Customer Hearing* with Site Visit	1 time in 1 month	*Parts Marketing Team*
2	*Hansei Meeting*	1 time in 1 month	*Parts Marketing Team*

Source: Processed by the author

In this case, the most influencing indicator is that the company involves information from customers in the product and service design process. So, it can be concluded that with all activities related to supply chain strategy, can improve the company performance of the company. Routine activities such as visits to customer locations carried out by the spare parts department by brainstorming and checking on units owned by customers can provide new views as well as input for the company. The results of the visit will be reported to the managerial side to be a reference for the company in making improvements or changes in the future.

In addition, the company also often holds monthly meetings with customers to discuss matters that need to be resolved so that this can also be taken into consideration for the company. The so-called monthly hansei meeting This event was also attended by both managerial parties from the company PT. KMSI, distributor companies and customers.

Customer requests such as speeding up delivery or ordering products that are difficult are always sought by the company to be resolved. Thus, these efforts are the company's efforts to maintain and improve relationships with customers as well as other outside parties.

Effect Test Product quality to Competitive Advantage

The calculation results obtained t-count of 6.29 and the value of t-table = 1.96 (t-count> t-table). This means that H01 is rejected and Ha1 is accepted, then there is a significant effect between product quality to competitive advantage. Thus, the hypothesis which states that there is a significant effect between Product quality to competitive advantage acceptable. Thus, this finding is also supported by Syapsan, (2019) that product quality drives an increase in competitive advantage.

PT. KMSI always maintain the quality they have. As evident from the results of the questionnaire distributed, the components of Reman's products have functional performance, strong durability, and features that add value and are in accordance with customer expectations, indicating that quality is a factor that greatly affects the company's competitive advantage. PT. KMSI makes various efforts to maintain the quality of Reman's products, from several product quality indicators, indicators of Reman products that have strong durability are the most important indicators to be maintained.

Efforts such as always conducting regular checks on Reman's products and also efforts to carry out a fairly long testing phase until finally Reman's products are ready for sale are efforts made by the company to maintain product quality. In addition, PT. KMSI also conducts strict selection of product suppliers, which prioritizes choosing suppliers that prioritize the selected quality. Thus, a tender is conducted in the selection of suppliers and the company will choose the supplier that is most in accordance with the company's high quality standards.

Effect Test Product Innovation to Competitive Advantage

The calculation results obtained t-count of 5.79 and the value of t-table = 1.96 (t-count> t-table). This means that H01 is rejected and Ha1 is accepted, then there is a significant effect between product innovation to competitive advantage. Thus the hypothesis which states that there is a significant effect between Product Innovation to competitive advantage. Al-Abdallah and Al-Salim, (2021) to support this research, their results found that product innovation has a positive effect on competitive advantage.

Several indicators are used to measure product innovation in Reman products, namely, technical innovations in Reman products, the company prioritizes quality in innovation, there are new features in Reman product innovations, there are changes in Reman product designs and Reman products always follow trends. The most important indicator that is always maintained by the company is that the company makes technical innovations in Reman products.

To innovate on a product, it is necessary to carry out several stages, namely, need to know customer needs, need to do testing, need product development that is in accordance with the market and need to evaluate. This is also done by PT. KMSI by evaluating customer complaints on a regular basis. Complaints given by customers become the benchmark or basis for companies to innovate on Reman products. In addition, other efforts made by the company are testing on obsolete products that will be remanufactured. The obsolete products that are stored will be carried out in several stages of testing to find out the source of the problem and the cause of the damage so that, from the test results, it becomes an evaluation to then make improvements to the next Reman product.

Effect Test Supply Chain Management Practices to Competitive Advantage

The calculation results obtained t-count of 2.06 and the value of t-table = 1.96 (t-count> t-table). This means that H01 is rejected and Ha1 is accepted. Then there is a significant effect between supply chain management practices to competitive advantage. Thus the hypothesis which states that there is a significant effect between supply chain management practices to competitive advantage acceptable. These results are in line with research conducted by Tukamuhabwa et al., (2021) who found that supply chain management practices have a positive effect on competitive advantage, thus, this shows that the better supply chain management practices contained in a company will further increase the competitive advantage of a company.

Some indicators in supply chain management practices which is most important to be maintained by PT. KMSI is a company that must always prioritize quality in the selection criteria suppliers, and the company always maintains close relationships with its customers. Efforts related to this are still being optimized by PT. KMSI. As explained in the previous points, many efforts have been made by the company to maintain close relationships with external parties, especially customers. Kassaneh and Bolisani (2021) explained that supply chain management *practices* related to several things, namely, managing good relations with clients or partners, procurement issues as well as supplier management as well as identifying problems and risks.

Thus, the efforts made by the company by always trying the best for customers. The activities carried out by the company to fulfill customer requests related to ordering procurement are the availability of a system that automatically real-time shows where the position of the customer's ordered goods has arrived so that the customer can clearly know the position of the ordered goods. In addition, the company also provides an alternative delivery of products ordered by customers if the customer asks for an order acceleration. The purpose of creating the productRemanis so that companies are able to pursue programs zero waste which is also one of the foundations in supply chain management practices company. Product Remains an effort made by the company to rejuvenate outdated machines so that they can be used again for several decades later.

Effect Test Supply Chain Responsiveness to Competitive Advantage

The calculation results obtained t-count is -0.51 and the value of t-table = 1.96 (t-count<t-table). This means that H01 is accepted and Ha1 is rejected, then there is no significant effect between supply chain responsiveness to competitive advantage. Thus the hypothesis which states that there is a significant effect between supply chain responsiveness to competitive advantage is rejected. It was also discovered by Jamaludin (2021); Kwak et al., (2018); Santos et al., (2021)in his research which found that an increase in the supply chain had no impact on competitive advantage.

Supply chain responsiveness closely related to the existing flow or system within the company that also involves external parties. The indicator on supply chain responsiveness that has the most influence on competitive advantage is that the company involves suppliers in the planning process and goal-setting process. However, this point has not been maximally carried out by the company. So, there needs to be additional efforts which are then used as policies within the company to involve suppliers in processes related to product development. Including, in this case, planning as well as in establishing goals, it is necessary to consider involving suppliers. An effort that can be made by the company is in holding a hansei meeting or customer hearing; it is better to add several suppliers related to Reman products to attend these activities.

Effect Test Supply Chain Strategy to Competitive Advantage

The calculation results obtained t-count is -0.08 and the value of t-table = 1.96 (t-count>t-table). This means that H01 is accepted and Ha1 is rejected, then there is no significant effect between supply chain strategy to competitive advantage. Thus the hypothesis which states that there is a significant effect between supply chain strategy to competitive advantage is rejected. The rejection of this hypothesis indicates that there is no significant effect between supply chain strategy and competitive advantage which is also found by Vargas et al., (2018), Marinagi et al., (2014)andAnatan, (2014)found that if there is an increase in the supply chain then this will not affect the value of the competitive advantage.

The indicators in the supply chain strategy have not been optimized by the company. For example, the company's indicators always involve suppliers in the new product development process, but the company has not yet optimized it. PT. KMSI only tries to choose the best supplier that prioritizes quality, however, it has not yet reached the stage of involving suppliers in product development. Thus, this shows that companies need to make policies that require companies to involve suppliers in product development activities. Preferably, this activity is formed by bringing

together several parties in the same activity space. The parties that must be involved are the company, customers, distributors and related suppliers. Besides that,

Effect Test Competitive Advantage to Company Performance

The calculation results obtained t-count of 2.45 and the value of t-table = 1.96 (t-count> t-table). This means that H01 is rejected and Ha1 is accepted, then there is a significant effect between competitive advantage to company performance. Thus the hypothesis which states that there is a significant effect between competitive advantage to company performance acceptable.Jeong and Chung, (2022); Zainol and Al Mamun, (2018)also supports this finding, namely, that increasing competitive advantage will increase the company's performance.

The competitive advantage of a company is one of the factors that affect the company's performance. This is because competitive advantage can increase company profitability. In addition, companies need to maintain their profitability well because profitability is also closely related to operating costs and company operating income where this is explained in the study. Rifan and Qintharah (2021). Indicators that measure this are the company introducing new products to the market, creating Reman products with excellent quality and competence, marketing Reman products in the right market, there are innovations in Reman products from aspects of service, processes, and new procedures as well as Reman products being marketed in right time. From these indicators, the company's indicator of creating Reman products with excellent quality and competence is one indicator that is often maintained by the company. In addition, the second indicator is that the company innovates on new services, processes and procedures on Reman.PT products. KMSI Together with its product distributor, namely PT. UT synergizes to provide services based on input from customers by optimizing the UT Call Center on line 150072, which is a 24-hour service established to always be there to serve customers. In addition, the company also strives to create the best Reman products by prioritizing quality as well as testing which is carried out through a long and gradual process.

The main advantages of PT. KMSI compared to other competing products, is its excellent after-sales service. Thus, to maintain these advantages, the company also makes efforts to place company representatives who are placed in customer locations that have a large number of units.

4. Conclusion

The results of this study indicate that product quality has a positive and significant effect on company performance on Reman's products. From several indicators on product quality, Reman's product indicators have features that add value to products that need to be optimized by the company. This, of course, has been taken into consideration by the company because, in the development of Reman products, the company focuses more on increasing durability and good functional performance. Because Reman products are created from outdated machines, which are then rejuvenated, it is certain that the goal is to increase the useful life of using these machines. So, because this indicator is also one of the factors of product quality, companies need to consider this. Product innovation does not affect the company's performance because there are not too many innovation efforts made by the company to improve performance. The most influential product innovation indicator for the company performance of PT. KMSI is the presence of new features and changes to the Reman product design. However, it is difficult to make changes to the design of Reman's products. Because Reman's product is an obsolete product that has been rejuvenated, so not many product innovation efforts have been made, and it is difficult to make changes to the design of Reman products. Because Reman's product is an obsolete product that has been rejuvenated, not many product

innovation efforts have been made, and it is difficult to make changes to the design of Reman products. Because Reman's product is an obsolete product that has been rejuvenated, not many product innovation efforts have been made,

Supply chain management practices positive effect on the company performance of Reman's products. The most influencing indicator, in this case, is that the company always maintains close relationships with its customers and also with other external parties. Several things that the company has done in this regard are the establishment of a PDC (Parts Distribution Center) division which is specifically intended to handle everything related to Reman products that need to be carried out. Supply chain responsiveness does not have a positive and significant effect on company performance. From some of the indicators above that have not been carried out optimally by the company, the company supports suppliers to improve the quality of their products. The company has not been directly involved in developing the quality of the supplier company's product. This is because of PT. KMSI in the early stages, already requires the selection of suppliers with the best quality. If the company wants to be involved in improving the quality of the supplier company's products, the company can provide input to suppliers if there is indeed poor quality in the products they sell.

Supply chain strategy does not have a positive and significant effect on company performance. This is because the company does not maximize strategy formulation in the supply chain. In this case, the indicators that the company has not attempted optimally involve information from customers in the product and service design process. So, it can be concluded that all activities related to supply chain strategies have not improved the company performance of the company. Routine activities such as visits to customer locations carried out by the spare parts department by conducting brainstorming and checking on units owned by customers can provide new views as well as input for the company.

Product quality has a positive and significant effect on competitive advantage. Reman product indicators that have strong durability are the most important indicators to be maintained. Efforts such as always conducting regular checks on Reman's products and also efforts to carry out a fairly long testing phase until finally Reman's products are ready for sale are efforts made by the company to maintain product quality.

Product innovation has a significant positive effect on competitive advantage. The most important indicator that is always maintained by the company is that the company makes technical innovations on Reman's products in an effort to increase the company's competitive advantage. To innovate on a product, it is necessary to carry out several stages, namely, need to know customer needs, need to do testing, need product development that is in accordance with the market and need to evaluate.

Supply chain management practices significant positive effect on competitive advantage. This shows that if the company improves or improves the company's supply chain management practices, this will also encourage an increase in the company's competitive advantage. Several indicators in supply chain management practices the most important to be maintained by PT. KMSI is a company that must always prioritize quality in supplier selection criteria and the company always maintains close relationships with customers. Efforts related to this are still being optimized by PT. KMSI.

Supply chain responsiveness does not have a significant positive effect on competitive advantage. The indicator on supply chain responsiveness that has the most influence on competitive advantage is that the company involves suppliers in the planning process and goal-setting process. However, this point has not been maximized by the company. So, there need to be additional efforts which are then used as policies within the company to involve suppliers in processes related to

product development. Including, in this case, planning as well as in establishing goals, it is necessary to consider involving suppliers.

A supply chain strategy does not have a significant positive effect on competitive advantage. The company does not optimize the supply chain strategy in the company because it has not considered it too important. The indicators in the supply chain strategy have not been optimized by the company. For example, the company's indicators always involve suppliers in the new product development process, but the company has not yet optimized it. PT. KMSI only tries to choose the best supplier that prioritizes quality, however, it has not yet reached the stage of supplier involvement in product development.

Competing products is its excellent after-sales service. Thus, to maintain these advantages, the company also makes efforts to place company representatives who are placed in customer locations that have a large number of units. And not only for customers with many units, the company also continues to optimize after-sales service for any customer.

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